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ABSTRACT

Two lead articles set the theme for this issue devoted to evaluation as Emile G. McAnany examines the usefulness of evaluation and Robert C. Hornik addresses four widely accepted myths about evaluation. Additional articles include a report of a field evaluation done by the Accion Cultural Popular (ACPO); a study of the impact of that evaluation by Hernando Bernal, Ernesto Santos, and Guillermo Torres; the use of formative evaluation (feedback) in program production for instructional radio by Jamesine Friend; and the potential use of postcards to stimulate the interest of villagers by Benedict Tisa. A selected annotated bibliography on evaluation, reviews of four books on communications, descriptions of four educational projects, and an annotated listing of reports on educational television in the Ivory Coast that are available through ERIC are also included. (JFG)

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EVALUATION

by

Emile G. McAnany

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Is Evaluation Useful?

by Emile G. McAnany

> ***"Evaluation is the process of delineating, obtaining, and providing useful information for judging decision alternatives."***
> *— Daniel L. Stufflebeam*

Evaluation is a growth business in the United States, and, like so many other of our products, we are beginning to export it. Those who would question this assertion need only review the bibliographies of books such as Schramm's *Big Media, Little Media* or Jamison and McAnany's *Radio for Education and Development*. An important question about this increasing literature is whether it is useful. Implicit in this question is another one: useful to *whom*? The answer is not a straightforward one, nor do I propose to give a simplified response.

In order to begin an answer, we might distinguish among a set of potential users of evaluation research: the project itself, the sponsoring agency, and the community of evaluators. If we look closely at the kinds of evaluations that are carried out in the field, we find a variety of activities, and if we push a step beyond the studies themselves, we find a variety of purposes inspiring these efforts. Although the purposes do not always coincide perfectly with the actors, they are most easily identified with them. Thus, project managers are interested in results that improve their enterprise; the sponsoring agency is most often concerned with generalizing the results for policy purposes; and the evaluator, while trying to serve other ends as well, is concerned about what the research may contribute to the research and evaluation literature.

The evaluation results may serve one or another of these purposes, but usually not all three. If we are to talk about the usefulness of evaluations of communication projects in Third World countries, we need to be aware of the multiple purposes that such research can serve.

Useful Evaluation for Projects

Evaluation can address a number of aspects of a project; thus the literature speaks of *planning*, *process*, and *impact* evaluation, identifying three points in time when evaluation may be undertaken. The terms *formative* and *summative* evaluation are used to emphasize the generic purposes of evaluative efforts, the former aimed at improving a project, the latter at providing information for a summary judgment of it. In theory, all of the information gathered in an evaluation could be of use to project managers.

Past experience warns us, however, that theory may not reflect the real world, and we must ask frankly whether evaluations have been useful to project managers. I would venture to say that, generally, evaluations have not been useful to the managers of the projects in which they were performed. The reasons are many, but we might summarize them as follows: 1) there is no interested audience among managers, often because the evaluation is not designed to help the management but rather to serve the purposes of other actors — the sponsors or evaluators; 2) the evaluation is seen by the

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Shedding Some Light On Evaluation's Myths

by Robert C. Hornik

Debunking myths affords considerable pleasure. Evaluation offers its share of debunkable myths, even though its history as a field for scholarly concentration is brief. I will address here four myths — propositions about evaluation that have been widely accepted but are not deserving of their status. I will refer particularly to evaluation as it is applied to educational broadcasting.

Myth #1: Evaluation is an objective, apolitical activity, providing unbiased information to decision makers as they optimize their decisions. This proposition is wishful thinking in most circumstances. Evaluation operates in a political environment. Decisions about social programs generally, and about the application of educational broadcasting specifically, are reached through a tremendously complex process. Whatever the actual chain of command, whether the society be democratic or authoritarian, the decision about whether and how to implement educational broadcasting will be negotiated among competing constituencies. These might include the planning staff of the person who signs on the bottom line, the entrenched educational bureaucracy and its network of power relationships, teachers, students, parents, the business community and other employers, foreign aid agencies, and other governmental entities.

Each of these concerned parties will attempt to influence the shape of the decision. Each has its own values to maximize and expectations of how much influence it will be able to wield. Decisions taken in such a political maelstrom are not likely to hinge on cost-benefit ratios.

Further, there will be no single decision. Even if there is a commitment to go ahead with educational broadcasting, the shape of the program will be hammered out in negotiation among the interested parties. In that process, there will be room for infor-

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This essay is in part based on work done with colleagues in the Stanford University Evaluation Consortium. That work will be published shortly by Jossey-Bass, Inc., under the title *Evaluation for an Open Society*.

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Is Evaluation Useful?

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managers as irrelevant, untimely, or not credible (the evaluator, for instance, may not be able to deliver an answer when it is most needed politically); and 3) the results are not communicated in a way that speaks to a manager's needs (the evaluator may write only in English or in social-science-ese, which is worse, or may not include a summary in a 400-page report).

Evaluations need not be useless to project managers; there are remedies. First, formative evaluation can be built into the system. For example, in the Nicaragua Radio Mathematics Project (see "Using Feedback for Program Production," page 8), the gathering of feedback provided a constant guide for creating the remainder of the mathematics program for each grade. One caution needs to be added, however: such formative evaluation will be built into the program — that is, will be used — only when project managers genuinely understand the function of the feedback. There are countless projects where feedback is dutifully gathered only to sit on shelves.

Second, project managers can define their needs and hire someone to work with them to meet these needs. (This may be a somewhat rare situation except in a crisis or other time of change, but these are often opportune times to do evaluations that can provide guidance to managers.) In this case an interested audience exists for the evaluation results. A current example comes to mind. ALER (Latin American Association of Educational Radio) has 35 member radio school groups in 19 countries. They are undertaking a major evaluation, the results of which are aimed specifically at helping them to rethink their goals, organizational structure, and financing. The likelihood of these results being used is higher because project managers themselves are participating in defining the study.

Third, evaluations can prove useful to project managers through their political function. Project managers need information to keep their projects funded and alive. The prestige of an outside evaluation, even if it is only vaguely positive, can often be quite useful to a manager in securing support from funding agencies.

Useful Evaluation for Policy Making

Many international, bilateral, and even national agencies sponsor evaluations in order to see if pilot projects have worked, with the hope that the results may be generalized from a pilot to a regional or national scale. Evaluation literature is replete with assessments of pilot projects or experiments. Evaluators have not, however, taken a careful look at which of these early projects survived, and why. What we find are many impact studies, varying widely in quality, with a variety of results. Again, making an impressionistic judgment, I would say that not many pilot project evaluations have been useful for policy. The reasons for this are twofold.

First, the evaluations may carefully evaluate the impact or outcomes of the pilot project, but tend to include few of the contextual factors that account for the project's success (or failure) in this particular setting. Even when such factors are recognized, they may refer to such things as motivation, leadership, or organizational ability, which are hard to measure and replicate. An idea may be vindicated — for example, you can teach mathematics successfully to rural primary students with radio — but these results do not translate easily to other settings and other circumstances without careful evaluation of all of the variables that may have contributed to outcomes (such as, in the Radio Mathematics Project, the importance of an experienced team leader and good backup by outside consultants).

Second, policy interests shift within funding agencies; by the time a carefully done evaluation is complete (in two, three, or even four years), the agency may no longer be interested in the results. We have all seen the shift from education to nonformal education to family planning to health that many international agencies have undergone. This is true of national agencies as well. A new government in a country will define a new set of development priorities in its new five-year plan. With the next plan there is often no continuity unless a project has been lucky enough to engineer institutional survival by establishing a regular budget line.

The remedies for these problems are not simple, but I might point out that it is possible to include in pilot project evaluation enough detail on context and process to generalize the results to another setting. Also, evaluation could well focus on those types of projects that are more permanent and therefore less subject to the changing whims of funding agencies.

Useful Evaluation for Science

In using such a loaded term as "science" to speak of how the evaluator can find evaluation useful, I am aware that many are skeptical of evaluation as "social science" and of social science as "science" itself. The main point that I would like to make in closing is that, in the work of summarizing and generalizing the evaluation experience in development communication, the evaluator tries to strike a balance between the academic and the practical. Insofar as the science of communication can be tested in the real world, we can validate or reject some of its postulates. Evaluation research is not an ideal way to accomplish this, but for development communication it provides an important opportunity to deepen insight into how communication operates in concrete social settings.

On the practical side, in attempting to understand, summarize, and generalize the experience in particular projects, the evaluator provides the more generalized knowledge that policy makers often need. Whether planners actually make use of this information is an empirical question that cannot be answered here. What is encouraging is that more summaries of projects are being made available in a variety of ways, and that, in some cases at least, concerns about better planning and implementation are being voiced. Evaluators would like to believe that perhaps their efforts are making some difference. ■

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Evaluation's Myths

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mation an evaluation can supply; there will also be major decision areas that will be so constrained by political concerns that the evaluator's efforts would be irrelevant.

The evaluator can help the decision-making process in this context only if he understands the political forces at work. On the one hand, he can determine which parts of the decision are open to information — those in which political interests are not at issue — and gather the appropriate data. For example, evidence about the amount of time a child will pay attention to a program will almost surely weigh heavily in decisions about the length of in-school instructional radio programs.

Beyond gathering information to affect technical decisions, the evaluator can work in the political arena as well. By providing credible information, the evaluator can help interested parties negotiate with a clearer picture of the likely consequences, and is therefore surely improving the political process. It should be emphasized that the evaluator will be helpful only insofar as he gathers information at points of leverage in the system, that is, about those issues that have not been decided upon in advance of negotiation.

Up to this point I have treated the evaluator as if he were free to gather information clarifying the interests of all of the decision participants. However, the evaluator has a sponsor, who may have special interests. Is it the planning chief who has hired the evaluator? He may be skittish about the evaluator working to inform the teachers,

reinforcing — or even awakening — their concerns. The planning chief may prefer that the evaluator spend all of his resources investigating questions that interest the sponsor, or that are likely to produce answers endorsing his perspective. Few participants in the decision process will be anxious to involve other groups if there is much likelihood of active opposition from them.

An evaluator often finds that his information does not influence decisions because most of his work takes place after the project has become operational. By that time, most of the decisions about the shape of the program have been made, and, more important, political commitments have been made. Even aspects of the decision that would have been open to information, had it been available, will be closed to it by the time it can be brought to bear. This paradox is a major fact of the evaluator's life, and it brings us to the next of our myths.

Myth #2: The evaluator's central concern is obtaining an answer to the question, "Did the project work?" Real evaluation is summative evaluation — Did this treatment produce the desired outcome? — and the bulk of the evaluator's resources should go to determining sound causal inference. Such is the customary wisdom, but it profoundly distorts the evaluator's task.

There is nobody out there listening to the answer to that question. In order to make a reasonable judgment about whether a given project is a success, the evaluator must wait until it has reached a relatively smooth operational stage. However, by that time, substantial financial and political commitments have been made and are essentially irreversible. After generating the momentum to begin a program of serious educational broadcasting, convincing the various elements of the community to forge ahead, building the studios, and installing the transmission equipment, no one will be much interested in finding out that the project does not work. A negative report will be buried faster than it can be duplicated, unless a change in the political environment opens the system to new information.

Summative evaluation can communicate one of three messages about a project: it did not work, it worked a little, it worked a lot. Yet the recent history of evaluation tells us the inferences from most evaluations are open to methodological challenge. A determined critic (even a self-critical evaluator) can develop alternative interpretations of data that open any conclusion to doubt, and there is no more determined critic than the manager of a project whose evaluation has turned out poorly. Whether the critique be substantive, methodological, or statistical, it will create doubt about the evaluator's conclusion. In a political environment supportive of the project, such doubts will count for a great deal.

If the project that is to be evaluated cannot use the summative evaluator's information, is there another potential audience? No and yes. There is no audience for the specific question, Did treatment produce outcome? There may be an audience for a question stated more broadly.

The natural audience for evaluations is the range of persons or institutions considering extensions or replications of the current project. However, merely knowing that the project produced a useful outcome will not be enough. Project extensions or replications will operate in a somewhat different setting from that of the ongoing project, reach a somewhat different clientele, and inevitably incorporate a different implementation of the treatment. One needs to know, not whether the treatment produced the desired outcome in a particular version of the project, but whether a similar treatment in a new setting with a new target audience is likely to succeed.

In doing a simple treatment and outcome evaluation one assumes that the treatment is easily transferable. Nothing can be further from the truth. I would argue that the greatest variation in success among projects has to do with the details of their implementation, and relatively little to do with the intrinsic concept of, say, educational radio. The evaluator who wants to communicate with the future audience must tell not only *whether* but also *how* the project worked.

Projects operate on models the characteristics of which are partially explicit and partially implicit. An educational radio project may offer a first grade mathematics curriculum. Explicitly, the project managers assign a specific role to the teacher in the classroom, and to complementary printed materials. They make a laundry list of other decisions, each of which makes assumptions about who the project's participants are and what they will be able to do.

Each of these decisions hypothesizes certain causal relationships: a major explanation for the failure of students to learn mathematics has been the inability of the classroom teacher to present material effectively, and presenting the core of the curriculum via radio will overcome that problem; a daily 25-minute radio lesson and a 15-minute follow-up session by the classroom teacher will be more effective than other divisions of the 40-minute class period. Designers of future systems must know what decisions were taken and how the system was expected to work. Then they must know which causal hypotheses were validated and which were not.

The examples I have presented thus far have stressed questions relating to the proposed learning process. There are also questions relating to implementation activities. For example, a planner considering the implementation of an El Salvador-like educational television project should know not only about the 15 to 25 percent gain in learning, but also about the two teachers' strikes that accompanied the introduction of ETV within an educational reform.

Some evaluation theorists have argued that this "process evaluation" — investigation of how a project achieves or does not achieve its ends — is the appropriate mode for evaluators concerned with helping ongoing projects to improve their effectiveness. I would suggest that such an argument can be extended — that process evaluation is also the appropriate strategy for those who describe themselves as summative evaluators, who have a primary audience of persons interested in future extension or replication of the project.

Myth #3: The field experiment is the optimum evaluation strategy. Mistrust of this proposition follows easily if one mistrusts the previous two. Recall that the evaluator is operating in a political environment, and that, if he is to be useful, he must answer a large number of questions about both process and effects. In that context, the field experiment is only one of the research strategies that may be chosen, and more often than not it is less than optimum. The argument has two central elements: field experiments are expensive and leave one able to answer fewer research questions, and field experiments offer precise answers to uninteresting questions. As a necessary complement to these propositions, I will argue that there are alternative research strategies that will be adequate in given contexts.

First, with regard to the expense. Field experiments draw heavily on financial resources. Research staff time spent in organizing the field experiment is usually greater than for alternative designs, additional money is spent for data collection (magnified by the presence of a "control" group — one that does not receive the treatment), and costs for data preparation and analysis are marginally higher.

An evaluation team also has limited *political* capital. The mounting of experiments implies the recruitment of control subjects. In the case of an instructional television project, for example, we might want to randomly assign schools to participate or not to participate. It can be a major undertaking to convince schools that it is in their interest to serve as controls, mainly because it is probably *not* in their interest. Constituencies may not think that sacrificing themselves for the long term benefits of the system is a terribly good idea, and convincing them, either through artful persuasion or through ar-

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ranging appropriate directives from superiors, will use up a fair supply of political capital.

In contrast to the limited financial and political budget allotted to the evaluation, there are a large number of research questions that require answers. The field experiment is a useful tool for answering a question about a single independent variable. At best, with a sophisticated design and a large enough sample of observations, one may be able to obtain information about the effects of two or three independent variables. However, if the evaluator's focus is on understanding the role of each element in the system so as to make recommendations for the next project down the line, he must answer questions about each. Expensive field experiments take away from the number of questions the evaluator can answer.

If the field experiment is expensive, at least it has the redeeming value of obtaining the most useful answer to the given question. Right? Wrong! Certainly it obtains the answer with the highest internal validity — that is, one can be sure that whatever effects are seen are due to the project treatment. Unfortunately, in the process of administering the field experiment, the evaluator often distorts or manipulates the project treatment in such a way that it no longer represents what one is interested in learning about. This argument rests on the previous assertion that only a small portion of the *variation* in success of projects is related to the intrinsic quality of project concepts. Rather, most of the variation in success is related to the implementation process.

While it is not inevitable, it is common that in his drive to purify the project to see its effects, the field experimenter will attempt to "control for" what he perceives are extraneous characteristics of the implementation — to ensure that they do not influence the outcome of the experiment. For example, the experimenter makes sure that all of the television classes are broadcast as scheduled, the teachers' guides arrive on time, and the student workbooks are not missing any pages. The real project will have to survive with the problems. By controlling for these supposedly extraneous characteristics, the field experimenter gains a neat experiment but suffers a reduction in external validity — the ability to make inferences from the study of a particular treatment to other situations.

Most good field experimenters are aware of the method's pitfalls, but they counterargue that there is no satisfactory alternative method for making the inferences about effects that the evaluator must often make. In some situations that may be true; in many it is not.

Imagine an agency undertaking a major literacy campaign in a rural area of a developing country. The campaign utilizes an innovative pedagogy, and other countries have shown interest in adopting the strategy if it proves successful and appears transferable. Thus an evaluation is developed. Among other research questions, one concerning whether substantial effectiveness was demonstrated is considered of great importance. The evaluator is charged with answering the outcome question adequately but using minimum resources.

The textbook approach to answering the outcome question would probably be to undertake a field experiment, assigning perhaps 20 villages to receive the treatment and 20 to remain as controls. Such a research effort might produce a satisfactory estimate of campaign effect, but the costs would be high. The evaluator must ask whether such an expenditure would be justified. Would it be possible to obtain an adequate answer with a less elaborate research design? What particular threats to the validity of the evaluation's findings or inferences are eliminated by the field experiment that cannot be controlled through less elaborate procedures? Assume we eliminated the 20 control villages, and instead measured levels of literacy before and after the campaign in 20 villages that were actually treated. What then would be the major threats to valid inference?

If there were *no* change in literacy levels, the inference would be that the treatment was ineffective, and it would not be challenged. The major research task would be to explain the failure. If there were a *positive* change, the important threats to an inference of project effectiveness would be either that the change resulted from spontaneous improvement in literacy level or that it resulted from some other teaching program that took place at the same time. If it were a *small* positive change, it would be difficult to eliminate the possibility of spontaneous improvement. However, if the objective of the project was to have a major impact on village literacy, a small change would probably represent an inadequate project outcome. Concern would be focused on explaining the relative failure, not on determining the exact proportion of the small change attributable to the project.

Finally, there might be *substantial* positive change which, if attributable to the project, would represent an important justification for its replication. On the surface, the two threats to valid inference remain — spontaneous improvement and the simultaneous action of other teaching programs. Yet how serious are they? Substantial spontaneous improvement in literacy over a relatively brief time is not likely, and as for the possibility of simultaneous action by other programs, one could determine whether alternative programs could have been responsible for the literacy improvement simply by conducting a number of conversations in villages showing substantial improvement.

For this project, therefore, a strong case can be made for eliminating the field experiment in favor of a somewhat less costly before-after study, combined with some direct field observation to make sure alternative projects were not operating. The answer is not of the same quality; it cannot be stated with equal precision or confidence in a statistical sense. Yet the quality is almost surely adequate to the needs of likely evaluation users.

Myth #4: Social science research methods are most useful to ongoing projects through their application to evaluation. It is a bit sad to see this last myth challenged, since social scientists take pleasure in exercising the apparent power connected to doing summative evaluation. But if they want to help operating projects, they need to apply their talents in another direction.

There are useful roles social researchers can play in the service of operational projects, and they all depend on a clear understanding of where the flexibility in project design really lies. The greatest flexibility is to be found when the project is being formulated. While substantial parts of the project design will be constrained by political and financial forces, there is still substantial room at that point for the influence of information. Planning research that describes audience needs and characteristics and explores constraints on possible delivery systems can be very helpful in determining a project's trajectory. If planning research is framed by some clear definition of the decisions yet to be made and the nature of data likely to inform these decisions, its usefulness will be magnified.

The pilot test would seem to be the optimum vehicle for planning research; in practice, however, I think it is not. To be effective, pilot tests must generally incorporate most of the features of the proposed project. In the process of deciding to undertake the pilot effort, project backers have already done the necessary negotiation within the decision-making community and its respective constituencies. Even if the approach tested in the pilot is publicly defined as experimental, it will have gained substantial momentum through the hiring of personnel and the creation of a product. Evidence that the experimental year was a failure may not result in major retooling if the political coalition that spawned the project remains intact. The pilot staff will argue — justifiably — that all projects face rough sailing in their first year. In fact, full pilot

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Accion Cultural Popular: Report of a Field Evaluation

Accion Cultural Popular (ACPO), a pioneer in the development of radiophonic education programs aimed at rural audiences, was founded as a private nonprofit operation in Colombia in 1947 through the initiative of a young priest, Jose Joaquin Salcedo. It is now the oldest and perhaps the largest nonformal education program in the world concerned with improving the quality of life of rural populations. Through the years the goal of ACPO has remained fundamentally the same: basic education for human and social development through a complex system of mass media reinforced by group and interpersonal communication.

ACPO's main educational activity is the radiophonic school, through which a family, or any group, can use radio, together with other elements, to follow daily classes in such subjects as reading and writing, basic arithmetic, information for health improvement, introductory concepts for agriculture and animal husbandry, and themes related to social life and ethical values. Educational programs, broadcast over Radio Sutatenza, reach all parts of Colombia and are heard by literally millions of rural Colombians, as well as by an unknown number of people in five neighboring countries. In addition to radio, extensive use is made of printed materials. These include the largest rural newspaper in Latin America, *El Campesino;* six basic textbooks *(cartillas);* and a collection of more than fifty books in a home library *(Biblioteca del Campesino).*

ACPO places major reliance on a large number of fieldworkers, mainly volunteers, who serve as monitors for the radiophonic schools, as community workers, and as local leaders in the ACPO program. Special institutes have been developed as training centers for community workers, local leaders, and supervisory field staff. Currently, more than 1,000 people comprise the ACPO staff. The success of ACPO has led to the development of similar programs in at least 14 other nations of Latin America, and nations throughout the world have looked to ACPO as a model for delivery of nonformal education to their rural populations.

In 1972 the Learning Systems Institute at Florida State University (FSU) began a study of nonformal education programs in developing countries, including Jamaica, Korea, Thailand, Ethiopia, Indonesia, and most of the countries of Latin America. Particularly impressed by the potential generalizability of the ACPO experience to other developing nations, FSU decided to examine in depth ACPO's mode of operation and its impact on the lives of its target audience, reasoning that if ACPO were to serve as a model for other programs, it was essential to know with what effectiveness ACPO's purposes were being accomplished. It was proposed to ACPO that FSU would conduct an intensive external evaluation over a three-year period. In 1976 ACPO agreed to cooperate in the field evaluation of its program, and the U.S. Agency for International Development entered into contract with FSU to conduct the project.

In the course of its existence, ACPO has directed its efforts to changing individual and family *behavior, knowledge,* and *attitudes* in well-specified ways. The primary purposes of the FSU evaluation were to determine whether measurable changes had taken place in the rural population of Colombia and to investigate the extent to which such changes could be attributed to ACPO's intervention. Another purpose for conducting the study was to improve ACPO's capacity to conduct its own field evaluations, thereby enabling the organiza-

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The Impact of the Evaluation on the ACPO Organization

by Hernando Bernal, Ernesto Santos, and Guillermo Torres

An analysis of the effects of the recent evaluation of Colombia's Acción Cultural Popular (ACPO), conducted by Florida State University (FSU), points up that the evaluation had two major kinds of impact on the ACPO organization and its activities. First, because ACPO was committed to the evaluation, the organization opened itself to the evaluation team in all stages of the process, from research design to data collection. The resulting contact between the organization's personnel and the evaluation team fostered a dynamic process that gradually modified many of the activities of the organization. Second, once the evaluation was completed, ACPO began to react by developing new strategies to implement the findings.

Other organizations that are undergoing external evaluations of their educational programs can anticipate the same kinds of effects. Thus, a more detailed discussion of ACPO's experience will be helpful in alerting others to the potential impact of evaluation on the organization, both during the evaluation process and after the evaluation team has returned home.

Effects of the Evaluation Process

The evaluation process itself had an impact at two levels of ACPO's organization: at the central level of the institution and at the community level.

In the early stages of the evaluation, the FSU project team set about reviewing and cataloguing ACPO's goals and purposes. This process involved a bibliographic review of ACPO's program documents, as well as discussions of the goals and purposes with ACPO staff at different levels. As a consequence, ACPO personnel had to provide explanations that in many cases led to their having a clearer understanding of the institutional philosophy.

Another task of the evaluation team was the identification and classification of the roles and tasks of ACPO field personnel. This process produced a list that, for the first time, summarized the many activities of the field personnel. Field personnel worked with central ACPO staff in analyzing the list, systematizing the tasks, and assigning priorities in terms of the training program for field personnel. Thus, as a result of this stage of the evaluation, ACPO undertook a revision of the systems and methodologies used for training field personnel, as well as a new curriculum design for its training institutes.

A third consequence grew out of the project team's content analysis of ACPO's educational materials in the three areas covered by the evaluation: the effects of ACPO on literacy, health, and agriculture. This detailed analysis produced a map of ACPO's strengths and weaknesses in the production of educational materials that will guide programmers in revising, adding, or eliminating certain themes of the radiophonic school broadcasts, as well as the content of newspaper articles, booklets, and other printed materials.

In addition to the program aspects, the research process also dealt with financial issues through a cost-benefit analysis. As a result, the organization is using new financial analysis methods.

In the process of preparing the evaluation questionnaires, the case-study analysts interviewed ACPO users in many rural communities, discussing with them the indicators they were proposing for measuring

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tion to obtain continual, systematic feedback on the success of its various program interventions. (One by-product of the evaluation effort is a series of self-instructional training programs on all aspects of field evaluation.)

In October 1976 the nucleus of the FSU field team moved to Bogota and took up offices within the ACPO complex. Certain members of the ACPO research staff were seconded to the project staff.

The evaluation process included several phases. First, the project team familiarized itself with the organizational processes of ACPO. These included all financial, organizational, and programmatic aspects of ACPO's activities. Second, from ACPO documents and personnel, the project team catalogued ACPO's general and specific goals and purposes. They then identified specific behaviors associated with these goals and purposes which, when exhibited singly or in combination by an individual *campesino* or family, would support the inference that the goal had been attained. These relevant behaviors — called *indicators* — were then structured into an in-depth interview format for use by case-study analysts.

The following are examples of the indicators developed in each of the three topic areas chosen for the evaluation study:

Agriculture

- Avoidance of the practice of "burning" to prepare the land for planting
- Use of contour planting on hillsides
- Construction of compost piles
- Construction and/or improvement of animal shelters
- Vaccination of animals
- Care of water resources and water reserves

Health

- Utilization of health services
- Inclusion in the family diet of vegetables, milk and dairy products, fruits, grains with high protein value, and meat
- Planting of family vegetable gardens
- Practice of personal hygiene
- Pre-natal care and proper nutrition for pregnant women
- Medical care and proper nutrition during first years of life
- Participation in recreational activities and sports
- Prevention of contamination of drinking water

Basic Education

- Ability to read
- Practice of reading on a regular basis
- Ability to write
- Ability to perform and apply mathematical functions
- Participation in study groups

The case study analysts intensively interviewed 41 selected rural families to verify the relevance of the information they were seeking to ACPO's purposes and to determine the most appropriate means of gathering such information on a large scale. Using feedback from the case-study families, the project team worked with consultants who were specialists in this type of field data gathering to modify and refine the survey questionnaire instruments. These were again field tested with *campesino* families and revised until a satisfactory final interview package was developed.

Survey instrument packages were designed to collect information in three areas: the family, the *vereda* (the rural community — usually a cluster of farm families living near one another as an identifiable social unit or community), and the use of ACPO services. Field interviewers used the family instruments package, a total of 285 questions, to obtain from each family interviewed basic data concerning the family itself; information concerning knowledge, practices, and attitudes in the fields of basic education, agriculture, and health; the *campesino* view of the general impact of ACPO; the degree and extent of use of ACPO services by the *campesino* family; and the interviewer's own assessment of the conse-

(Continued on page 7)

ACPO's effects. This same type of interaction took place during the pilot test of the refined survey questionnaires. A third opportunity for contact at the community level was during the stage of data collection, when the evaluation fieldworkers interviewed 601 *campesino* families all over Colombia. In each instance the evaluation personnel, who were external to ACPO, could inform the non-users in the communities about the ACPO services and could motivate users toward a better and more permanent utilization of ACPO.

Applying the Evaluation Results

The second major area in which an organization is affected by its evaluation is in the establishment of mechanisms applying the findings, once the study is concluded and the results presented. The results can have an impact ranging from the level of general policy to that of specific procedures within the organization.

In the case of ACPO, at the general policy level the organization plans to carry out a series of seminars with personnel from the various operating units of the institution, so that they can become familiar with and analyze the results of the evaluation and discuss possible strategies for its application. In general terms, applications on two different levels are foreseen: on the internal level, for the institution's activities aimed at rural Colombians; and on the external level, to enrich ACPO's consulting services to other nonformal education programs.

As already mentioned, the evaluation emphasized three of the themes taught by ACPO — literacy, health, and agriculture. Analysis of the data for each of these three areas revealed the benefits and the deficiencies in terms of knowledge acquired by the peasants, practices realized, and attitudes toward specific aspects. This information will guide ACPO's management, and particularly its media programmers, in instituting reforms of the curriculum.

Data analysis also provided information on the use of the various educational media. Using these data, the different sections of ACPO charged with responsibility for each medium will be able either to confirm or to redesign the strategies of use and distribution now in operation. For example, one of the newer program elements is a set of phonograph records of the basic literacy course, for use by *campesinos* who cannot listen regularly to the radio broadcasts. Evaluation data revealed that the distribution and use of the records were limited. Thus, new strategies are being devised to publicize the records and encourage their use.

During each stage of the evaluation, a team of ACPO officials worked as counterparts to the FSU project personnel. These officials had the opportunity to receive theoretical as well as practical training in evaluation, thus helping ACPO to strengthen and enrich its evaluation capabilities. These personnel are now involved with ACPO's ongoing evaluation activities. The project also produced a series of modules on the evaluation of nonformal education programs that will be used to train ACPO personnel.

On the external level, since 1977 ACPO has been developing a variety of consulting services to similar nonformal education programs in Latin America. The consulting, based on a thorough explication of ACPO programs, is built around courses in which the personnel are instructed in such specific skills as media production and curriculum design. Future courses and other forms of external assistance will integrate the results of the evaluation. ■

For further information contact Dr. Hernando Bernal, Director, Departamento de Planeamiento y Evaluación, ACPO, Apartado Aéreo 7170, Bogotá, Colombia.

Hernando Bernal is the planning director of ACPO. Ernesto Santos and Guillermo Torres were members of the ACPO evaluation team.

quences of ACPO on the family.

The *vereda* survey package of 96 questions included two instruments, the first to collect data on the context in which the *campesinos* live, using government data and information from sources such as the parish priest, community officials, community leaders, ACPO personnel, and others, and the second to assess the consequences of ACPO in the community, summarizing the perceptions of the ACPO team.

The family case studies instrument contained all of the questions in the family instruments package, supplemented by 101 questions designed to provide in-depth information in each of the various sections, focusing on ACPO as a cause of learning. This instrument was administered by field interviewers to 56 families.

A total of 32 Colombian fieldworkers, interviewers, and coordinators were selected, trained, and sent to 30 randomly selected communities to interview 601 randomly selected rural families. Field date was collected from March to May 1978.

The survey generated an enormous amount of information about the families' use of ACPO's programs, about other relevant context data, and about the observed and reported effects on the family. The completed survey forms were returned to the Bogota project office, where they were given to a trained team of recorders and coders who coded the data for entry into the computer. All data was entered into a computer on the FSU campus, where it was analyzed primarily through the use of correlational analysis. It was essential that the analysis determine the degree of relationship, if any, between the family's participation in ACPO programs and the surveyed behavior exhibited by the family in health, agriculture, and basic education.

The findings support the conclusion that ACPO's programs have had substantial beneficial effects on the lives of the Colombian *campesino* families. It was possible to extract the contributions of other sources of benefit and examine only those effects exclusively attributable to ACPO.

In the health area, there is an interdependence between the ACPO processes and other health support services in the context of the community. Each contributes about equally to the variance in practice, knowledge, attitudes, and overall health effects.

In the agricultural area, there was a significant relationship found between participation in ACPO programs and effective agriculture behavior. The other sources of agriculture support did not significantly contribute to the effects in agriculture.

In basic education (knowledge and skills in reading, writing, and arithmetic), it was found that families who were frequent participants in ACPO activities tended to have relatively high proficiency, and that this relationship persisted when the effects of other educational programs were removed. In the survey it was found that most of the respondents had received their basic education in formal schooling, yet the high users of ACPO tended to score higher when actual measures were made of proficiency. This suggests that, while ACPO may not be the earliest or primary source for learning the basic education skills, it serves an important role in improving and maintaining these skills.

It was found in the statistical analysis of the results that the five ACPO elements — Radio Sutatenza, the weekly newspaper, the training texts, the home library, and the fieldworkers — were so highly interdependent that it was impossible to conclude that any one element contributed more to the observed effects than did any other. The degree of use of the ACPO elements was more important than the particular combination of elements that were used.

In one part of the survey, the families were asked to report on ways in which ACPO had been helpful to them and to make judgments as to the importance and value of this help. The following tables summarize their responses.

TABLE 1
Ways in which the teachings of ACPO in reading, writing, and mathematics have helped the family

TYPE OF ASSISTANCE	% FAMILIES*
No help	12
Sending, receiving letters	6
Reading books, newspapers	35
Keeping family accounts	33
Continued study	13
Other ways	20

TABLE 2
Ways in which learning about agriculture with ACPO has helped the family

TYPE OF ASSISTANCE	% FAMILIES*
No help	7
Gained more knowledge	49
Improved agriculture and animal husbandry	47
Increased production	13
Participate in economic associations	1
Improved income	9
Other ways	6

TABLE 3
Ways in which learning about health with ACPO has helped the family

TYPE OF ASSISTANCE	% FAMILIES*
No help	8
Gained more knowledge	29
Improved health, fewer diseases	29
Improved food and nutrition	46
Improved cleanliness and hygiene	31
Better care of the children	16
Ability to perform first aid	10
Made more frequent use of health center	66
Improvements of the home	25

TABLE 4
Most important topic taught by ACPO according to family response

TOPIC	% FAMILIES
None	5
Economics and Labor	22
Health	27
Basic Education	17
Mathematics	4
Spirituality	3
Responsible Procreation	1
Community Organization	2
Other	18

TABLE 5
Distribution of families who think that ACPO has helped the family

DEGREE OF HELP	% FAMILIES
No help	7
Little help	34
Much help	59
Importance of ACPO help compared to other institutions	
ACPO not important	9
ACPO less important	11
ACPO of equal importance	18
ACPO more important	46
ACPO was only institution	16

TABLE 6
Most helpful ACPO materials, activities, persons

ACPO ELEMENT	% FAMILIES
None	6
Textbooks	32
Library Books	2
Newspaper	7
Radio	24
Extension course	1
Institutes	2
Record-set courses	0
Community volunteer	1
Leader	11
Supervisor	0
Not applicable	13

TABLE 7
Reasons why elements used now are not as useful as they were in the past

SUGGESTED REASON	% FAMILIES
Does not apply	46
They do not satisfy the needs of family	7
Inadequate schedule	8
Absence of leader or community volunteer	19
Radio courses are not interesting	9
Not enough extension courses	2
There is a local school now	3
There are other institutions now	2
Structure of the class has changed	3
Other reasons	21

*The percentages do not sum to 100 since each family was able to make more than one response.

(Continued on page 8)

5-B

In Table 1 it can be seen that only 12 percent of the families reported that ACPO had been of no help, while its role as a source of reading materials was the most frequently reported means of help. When asked to select the most important topic taught by ACPO (Table 4), 27 percent of the families chose the health area, with 22 percent selecting economics and labor as most important. In Table 5, 46 percent of the respondents said that ACPO was more important than other institutional sources of help.

When asked to identify the ACPO resources that had been most helpful (See Table 6), 32 percent indicated the textbooks, and 24 percent the radio. Eleven percent chose the leader. However, when asked why ACPO elements were less useful at the time of the survey than they had been in the past (where this was found to be the case), by far the largest number, 19 percent, indicated that the absence of a leader or community volunteer was the most important reason (Table 7).

The finding shown in Table 7 does highlight the importance of the interpersonal component as essential to the working of the ACPO process. This is also consistent with the reports of several of the field survey team members that the ACPO fieldworker is an important catalyst to the ACPO process. While the data regarding the importance of the fieldworkers is inconclusive, the firm and uniform judgment of all of the project staff who have worked with the *campesinos* in their communities is that the leaders and community volunteers are essential to ACPO's success.

In evaluating the activities of ACPO, FSU looked not only at whether the program had achieved its goals, but also at how the people in rural communities felt about the program and how they viewed its various components. Moreover, the staff examined the processes through which the effects they found were attained. Thus, the results of the evaluation will be useful to others who want to learn from ACPO's successful experience in using a coordinated program of radio broadcasts, fieldworkers, and print materials to improve the quality of life of rural populations. ■

This article is derived from a project document written by Robert M. Morgan, Liliana Muhlman, and Paul H. Masoner of the Learning Systems Institute, Florida State University. The final evaluation report and the training modules on evaluation processes will be published in early 1980 and will be available in English and Spanish. For information contact Dr. Robert M. Morgan, Learning Systems Institute, 206 Dodd Hall, The Florida State University, Tallahassee, Florida 32306, U.S.A.

Using Feedback for Program Production: Formative Evaluation of Instructional Radio

by Jamesine E. Friend

The success of educational broadcasts frequently depends upon how well the programs are field tested before dissemination to a wide audience. In recent years broadcasters have become well convinced of this principle, and there are few major radio or television projects in the world that do not field test materials to some extent.

The kind and quality of data collected during field testing varies enormously from project to project, as do the qualifications of the personnel who conduct the field tests. Frequently the impact of the program on the audience is measured by questionnaires or interviews designed to elicit both favorable and unfavorable reactions to the material broadcast. At one end of the scale are simple audience surveys that reveal only whether or not (or how often) people listen to the broadcasts. At the other end are quite sophisticated, individualized interviews in which trained psychologists probe for subtler effects such as changes in attitude attributable to exposure to the programs.

More rarely, producers attempt to determine if the habits, skills, and knowledge, as well as the attitudes, of the target audience are changed in a measurable way. For example, changes in planting techniques, eating habits, or infant mortality rates might be measured.

The above kinds of information gained during field testing are used as a basis for revising programs before they are broadcast on a wider scale, and the result is usually an improved product that will have the desired effect.

This model of producing programs — field testing them with a relatively small but representative population, and using the results as a basis for revision before wide-scale broadcasting — has been used most widely in the development of programs for nonformal education, where messages can be conveyed in discrete "chunks" and where a major problem is audience appeal. Although there may be an entire series of programs, there might not be a regular listening audience, so each program must stand alone as a self-contained unit delivering its message as best it can to a listener who may not have heard previous broadcasts and may not listen to future ones.

In educational broadcasting for formal education — programs to be used within a normal school setting — the goals and problems are quite different. The main goal is more likely to be the development of specific skills than conveying general knowledge or changing attitudes. The problem of attracting an audience is of a less pressing nature, since the student will ordinarily listen regularly under the supervision of a teacher or monitor, and can be expected for the most part to have heard the preceding programs in the same series. Also, it is more likely that the audience is relatively homogeneous — all students of roughly the same age and at the same stage of formal training.

Thus, in several ways, the problems of the producer of formal education programs are less severe than the problems of the producer of nonformal broadcasts, who must appeal to a casual listening audience with a wide variety of backgrounds.

On the other hand, the producer of programs for formal education has problems not often found in nonformal education. He must impart skills that can be taught only by a structured sequence of carefully designed, integrated instructional units that build slowly but continuously toward a set of well-defined objectives. Skills such as arithmetic, grammar, reading, or language cannot be taught in small independent units that can be broadcast in random order; the component skills must each be taught in the proper sequence, and instruction cannot proceed effectively unless the audience has mastered preceding lessons.

The audience for formal broadcasts is also more likely to be immature, lack the general knowledge that an adult audience (even though illiterate) would be more likely to have, lack fully developed language capabilities, and have a shorter attention span.

Because of both the audience and the subject matter, the field testing techniques used in nonformal programming are not entirely appropriate for formal education programs. Formal education programs cannot be tested in isolation, since the effectiveness of any one program is dependent upon its place in a series and upon how well the groundwork was laid in the preceding lessons. The primary goal of the series is the development of skills that are learned slowly, and only after both effective instruction and ample practice. Since these skills develop slowly, it is often difficult to see an appreciable gain after a single broadcast, although the cumulative effect of a series of 150 to 175 lessons may be large.

The integrated nature of a formal education series dictates that the only way to test its effectiveness is to test the series as a whole rather than field testing individual

programs or short sequences of programs. Although it would seem appropriate, then, to develop the full set of programs before field testing, there are other factors that preclude this being the optimal approach. The major factor is the changing needs of the audience over time. The students learn as the series unfolds. They become more adept at tasks they once could not do. Their language abilities develop, and they learn to do simple tasks more rapidly. Thus, a task that could once be done only haltingly and with repetitive, clearly phrased instructions can later be done rapidly and accurately with little or no specific instruction. To accommodate these changes, the program design itself must change over time.

The Radio Mathematics Project staff had to take all of these factors into account when it set about the task of preparing daily mathematics instruction for elementary school students in Nicaragua. The project designed and used a system of production whereby programs could be continuously adapted to the changing characteristics of the audience, even though the producers could not predict in advance the exact rates at which changes in the listeners would occur. In this system, which is modeled after industrial feedback processes, programs are produced just before broadcast, and the reactions of the listening audience are continuously monitored to determine the direction and amount of change that is taking place. The information collected is used in the planning and production of upcoming programs in the series. If the students are learning to respond more quickly to a particular type of oral drill, the time allowed for such response is decreased in future lessons. If there are signs that the students need more practice in a particular skill, additional practice is built into upcoming lessons. If students show that they can now understand abbreviated instructions, the number of words used in similar messages is reduced in the future.

In this way, the production of a year-long series can be accomplished within a single calendar year, and the final product is well fitted to the audience for whom it is intended.

The greatest difference between this feedback system of production and the more traditional field testing described earlier is that in the feedback system there is no actual revision of materials. The information that is collected in the field is used in the production of new programs, not in the revision of those that were already broadcast. That is, it is not a method for correcting faults but rather a method for adapting design parameters for an audience in a state of flux.

If the programs were quite inappropriate, with blatant faults that would preclude their use with a larger audience, the only remedy would be revision. The feedback method is not appropriate if programs are far from the mark. The production team must be capable of producing good, if not perfect, programs with high face value before the feedback system can be effective. Thus, the two methods, feedback and revision, are complementary, and both can be used to good effect under different circumstances, even within the same project.

So far we have said little of the nature of the information collected in the field. The kinds of information needed and the tools for collecting them will vary depending upon the content of the programs, the nature of the audience, and perhaps the locale. In the Nicaragua Radio Mathematics Project, the main sources of information were paper-and-pencil tests administered at weekly intervals, and daily classroom observation. Less regular but highly useful sources of information were interviews with children, questionnaires for teachers, conversations with teachers and other school personnel, and comments made by outside observers.

The feedback system should not be undertaken lightly, especially by inexperienced or tightly budgeted production companies, since the demands on the personnel and managerial staff are quite high. The effectiveness of the feedback system depends upon how rapidly the production staff can respond to the changing needs of the audience. For this reason, programs cannot be stockpiled but must be produced just before they are broadcast, which means that the production schedule is always tight, with little room for unexpected problems. There must be a fairly large, capable evaluation staff that must monitor student outcomes continuously and report immediately to the production staff so that their findings can have an effect on lessons in production. There must be a detailed but flexible plan for the introduction of new topics, with allowance for the time it will take for needed feedback data to reach the production team. The production of such a plan is no trivial matter, for the planning must take into account both instructional objectives and evaluation objectives as well as time schedules.

Despite the difficulties and expense of using a feedback system for the production of instructional radio broadcasts, the resulting higher quality and appeal of the programs will amply reward the producer who uses such a system, as has been amply demonstrated by the success of the Radio Mathematics Project of Nicaragua. ■

Jamesine E. Friend, the former director of the Nicaragua Radio Mathematics project, is currently a visiting scholar at the Palo Alto Research Center, Xerox Corporation, 3333 Coyote Hill Road, Palo Alto, California 94304, U.S.A.

What is formative evaluation?

One of the clearest descriptions [of formative evaluation] that we've heard comes from our Stanford colleague Jamesine Friend. She described the process using this example: Imagine an oil refinery where there is a pipe that carries one kind of oil. The oil flows through the pipe to a tank, where it is mixed with other kinds of oil and other chemicals. The amount of oil flowing through the pipe should always be the same but, for all kinds of oil-refinery reasons, this is not always the case. To correct this, a meter is installed at the end of the pipe to measure the amount of oil coming out. This meter is connected to a valve that can be opened and closed automatically. When the flow is too great, the valve is closed slightly; when the flow is too small, the valve is opened further. So, this "formative evaluation" system has two components: the *meter* that measures the flow, and the *valve* that adjusts it. The system must have both 1) information about how well the ongoing process is working and 2) a means of changing the process if this information shows that a change is necessary.

We would add one other component: a *criterion*. When the process is measured, the actual performance has to be compared to a criterion and then the "valve" must make the process return to the criterion level.

Therefore, the components of a formative evaluation system are:

- a criterion
- a measuring device
- an adjusting device

Note the organic relations within each pair of components. Without the criterion, the measuring device would not make any comparative measure. Without the adjusting device, the information gathered by comparative measurement would not be fed back into the process.

And note, also, that there is no suggestion that the pipe be turned off during all this. This measurement and adjustment takes place while the process continues. Formative evaluation is done while the project is ongoing; it is done without stopping the project. ■

From "Formative Evaluation in Theory and Practice," a paper by Peter L. Spain and Emile G. McAnany, Stanford University Institute for Communication Research.

Special note: Guest editor for this issue of *DCR* was Barbara Searle, Senior Research Associate at the Institute for Communication Research, Stanford University.

On File at ERIC

A series of reports on educational television in the Ivory Coast examines various aspects of the primary and secondary education systems, as well as the Out-of-School Television programs for rural adults.

The selected reports reviewed in this column and the related papers listed are all in English and available in microfiche from the ERIC Document Reproduction Service (EDRS), P.O. Box 190, Arlington, Virginia, 22210, U.S.A. Some are also available in paper copy.

Educational Television Production

- Evans, Stella, and Klees, Steven. ***ETV Production in the Ivory Coast.*** Washington, D.C.: Academy for Educational Development; Stanford, California: Stanford University, Institute for Communication Research, 1976, 87 pp. (ED 172 739).

The authors assess the efficiency of educational broadcasting in the Ivory Coast from the standpoint of the utilization of physical and human resources. The general organization of the educational television complex in Bouaké, the costs of the production system, and the process by which programs are produced are described, as well as the interaction among the producer, the printed support materials writer, and the director in the production process. Also detailed are the organizational structure and utilization of resources, feedback and evaluation mechanisms, and the change from film to videotape production. Available from EDRS in microfiche for 83c plus postage.

Cost Analyses

- Grant, Stephen, and others. ***Economic Studies and Out-of-School Education Program Evaluation for the Ivory Coast. Final Report.*** Washington, D.C.: Academy for Educational Development; Stanford, California: Stanford University, Institute for Communication Research, 1978, 125 pp. (ED 172 737).

This report is the final in a series of 17 reports concerned with cost analysis and projections of the instructional television program and the Out-of-School Television (OSTV) project in the Ivory Coast. It includes an introduction to the OSTV project in its first five years, a description of the main elements of the in-school reform, an outline of the progression of OSTV objectives, examples of the subject matter covered in OSTV broadcasts ("Télé pour tous"), and an explanation of the role of the teachers who serve as animators for OSTV.

The larger series of 17 reports is discussed in the context of a "social impact model"; each of the economic studies performed as part of this project is summarized under the appropriate educational level. Recommendations for action are presented for each level, with recommendations for OSTV categorized by order of magnitude: those designed to improve operations and impact without any sizable increase in resources, those that require a significant increase in resources, and those that involve larger decisions and a greater commitment by the government. Available from EDRS in microfiche for 83c or in paper copy for $7.82 plus postage.

- Eicher, Jean-Claude and Orivel, François. ***Cost Analysis of the Primary Instructional Television Program in the Ivory Coast.*** Washington, D.C.: Academy for Educational Development; Stanford, California: Stanford University, Institute for Communication Research, 1977, 114 pp. (ED 172 735). Available from EDRS in microfiche for 83c plus postage.

Secondary Education

- McAnany, Emile G. ***Secondary School Alternatives in the Ivory Coast: Considerations.*** Paper prepared for the Evaluation Unit of the Ministry of Primary Education and Television, Abidjan, Ivory Coast, 1976, 29 pp. (ED 172 755).

Intended to provide information for Ivorien decision makers, this paper presents an overview and cost comparison of technological alternatives for the delivery of instruction at the post-primary level. The five alternatives for regular secondary education are: traditional, audiovisual traditional, instructional television (ITV), ITV extension of the school (Mexican model), and distance learning. The Telesecundaria System in Mexico is described in detail. Distance learning is discussed as a means of providing both formal and nonformal education and training for adults (18 and over). Examples from other developing nations are cited, and the viability of this alternative for the Ivory Coast is discussed. A list of references is attached. Available from EDRS in microfiche for 83c or in paper copy for $3.32 plus postage.

- Danière, André, and Orivel, François. ***Post-Primary Options in the Ivory Coast.*** Washington, D.C.: Academy for Educational Development; Stanford, California: Stanford University, Institute for Communication Research, 1977, 193 pp. (ED 172 750). Available from EDRS in microfiche for 83c plus postage.

- Wells, Stuart. ***Labor Markets and the Social Demand for Education: An Analysis of the Ivory Coast.*** Washington, D.C.: Academy for Educational Development, 1977, 46 pp. (ED 172 743). Available from EDRS in microfiche for 83c plus postage.

Out-Of-School ETV

- Grant, Stephen. ***An Administrative History of Out-of-School Educational Television in the Ivory Coast.*** Washington, D.C.: Academy for Educational Development; Stanford, California: Stanford University, Institute for Communication Research, 1977, 104 pp. (ED 172 730).

This report describes the basic organization, management, and evolution of the department producing "Télé pour tous," the first attempt to use national television in the Ivory Coast to bring educational and informational programs to a non-school adult rural public. The department's tasks were 1) to produce TV programs, 2) to train and supervise TV animators, and 3) to stimulate interest in and viewing of its product. Discussed in the report are the decision-oriented methodology of the study; basic background information on the project, including target audiences, program objectives, and policies; a detailed examination of six key features of the program; a comparison of the national plan for out-of-school education with the new directions of the out-of-school department; and an analysis of how the program fits into the context of national planning strategies. Available from EDRS in microfiche for 83c or in paper copy for $7.82 plus postage.

- Grant, Stephen. ***On Needs Assessment of Out-of-School Educational Television in the Ivory Coast.*** Washington, D.C.: Academy for Educational Development; Stanford, California: Stanford University, Institute for Communication Research, 1978, 44 pp. (ED 172 746). Available from EDRS in microfiche for 83c or in paper copy for $3.32 plus postage.

- Beneviste, Annie. ***The Reception and Animation of Out-of-School Educational Television Programs in the Ivory Coast: A Case Study of Four Villages.*** (English Summary by Theresa Silverman.) Summary of a Master's Thesis, Stanford University, 1977, 43 pp. (ED 172 752). Available from EDRS in microfiche for 83c or in paper copy for $3.32 plus postage.

- Seya, Pierre Thizier, and Yao, Faustin Kouadjo. ***Television for the Rural African Village: Studies of Audiences and Impact in the Ivory Coast.*** Stanford, California: Stanford University, Institute for Communication Research, 1977, 66 pp. (ED 172 758). Available from EDRS in microfiche for 83c or in paper copy for $4.82 plus postage.

Barbara B. Minor, Publications Coordinator, ERIC Clearinghouse on Information Resources, School of Education, Syracuse University, Syracuse, New York 13210, U.S.A.

PROJECTS IN BRIEF

These project descriptions were written by Barbara O'Grady, of the Academy for Educational Development, using information submitted by readers in response to the Project Information Request in Issue 18 of *DCR*. Future newsletters will contain four project descriptions an issue until the series is completed.

COMMUNICATION INFORMATION SERVICE

Wayne Singleton
P.O. Box 208
Suva, Fiji

Date submitted to CDC: July 28, 1977

FOCUS: Communication Information Service (CIS) is a program of the Pacific Conference of Churches (PCC) and serves as PCC's media mouthpiece to disseminate information through a 14-million-square-mile region in which 25 percent of the world's languages are spoken. Its activities include producing reports, newspapers, leaflets, and graphic materials concerned with population/family planning, literacy, community development, and education. The visual aids must be literal in order to be effective at workshops attended by representatives of diverse cultural backgrounds.

SUBJECT AREAS: Population/Family Planning, Literacy, Community Development, Education

TYPE OF MEDIA: Cassette recorder, radio, videotape, slides, photographs, newspaper, books, pamphlets, posters

TARGET AUDIENCE: Varies, depending on the program

SCALE OF PROJECT: South Pacific

PROJECT STATUS: CIS restructured at the beginning of 1977; in implementation stage as of 7/77

SPONSORING/COOP. AGENCY: Pacific Conference of Churches

PROJECTO DE ENSINO A DISTANCIA

Reginaldo Naves de Souza Lima
C. Postal 990
30000 Belo Horizonte, M.G.
Brazil

Date submitted to CDC: September 3, 1977

FOCUS: Projecto de Ensino à Distância trains teachers of mathematics according to Piaget's theory of cognitive development. The project develops instructional materials and trains teachers in their use through both correspondence courses and personal contact.

SUBJECT AREAS: Education

TYPE OF MEDIA: Radio, slides, newspaper, books, pamphlets, posters

TARGET AUDIENCE: Literate adults

SCALE OF PROJECT: Regional

PROJECT STATUS: In planning and implementation stages as of 9/77

SPONSORING/COOP. AGENCY: CECIMIG (Centro de Treinamento de Professores de Ciencias de Minas Gerais)

LOW-COST A/V MEDIA FOR DISTANCE LEARNERS

Tony Bates
IET
Open University
Milton Keynes, England

Date submitted to CDC: May 27, 1977

FOCUS: This project attempts to cost and describe the educational advantages and disadvantages of low-cost, non-broadcast audio and audiovisual media used as alternatives to television and radio for nationally distributed, home-based learners in courses with fewer than 500 students. The project describes new electronic technology, including electronic blackboard, computer display on home television sets, CEEFAX/Oracle, and Viewdata. Aspects of the project that are of special interest to the development process include its administration and organization, its method of inquiry, the description of low-cost audiovisual technologies, the effects of such technologies on course design, and its method of dealing with the question of cost-effectiveness.

SUBJECT AREAS: Education

TYPE OF MEDIA: Cassette recorder, radio, videotape, videocassettes, television, 8mm film, filmstrips, slides, photographs, phonograph records, CEEFAX/Oracle, telephone, electronic blackboard, Viewdata, flexi-discs

TARGET AUDIENCE: Literate adults

SCALE OF PROJECT: National

PROJECT STATUS: Research and inquiry project, ongoing as of 5/77

SPONSORING/COOP. AGENCY: Open University, United Kingdom

INTERCULTURAL COMMUNICATION WORKSHOP

Milton J. Bennett
Janet M. Bennett
Department of Speech-Communication
Portland State University
Box 721
Portland, Oregon 97201

Date submitted to CDC: August 24, 1977

FOCUS: The Intercultural Communication Workshop (ICW) is an educational technique aimed at developing more effective communication across cultures. ICW trains mixed groups of United States and international students in value suspension, nonverbal behavior awareness, and intercultural empathy. The project's techniques have been applied successfully to training for international travel/study programs, research in other cultures, business personnel on overseas assignment, and international student orientation, and have been used as a university course for intercultural education.

SUBJECT AREAS: Education

TYPE OF MEDIA: Videotape, 16mm film, slides, books, simulations

TARGET AUDIENCE: International visitors and U.S. and international students

SCALE OF PROJECT: International

PROJECT STATUS: Begun in 1972; in implementation and evaluation stages as of 8/77

SPONSORING/COOP. AGENCY: University of Minnesota, Portland State University, Student Project for Amity among Nations (SPAN)-Minnesota, American Heritage Association (Oregon)

A Communicator's Checklist

1 ***Communication with the Rural Poor in the Third World: Does Information Make a Difference?,*** edited by Emile G. McAnany (Stanford, California: Stanford University Institute for Communication Research, 1978), 143 pages.

From 1973-78 Stanford's Institute for Communication Research conducted research and field work (in the Ivory Coast and Guatemala) on the role of communication and information in the formal and nonformal educational activities of Third World countries. The work was focused on development projects targeted to the rural poor. The results are summarized in this volume of four reports by different authors who "attempt to bring together as much empirical evidence as we currently have available on the problem of information-communication in rural development and to place this evidence within a framework that is both theoretically sound and practically applicable."

This framework, which serves as a mutual point of reference for the authors, is summarized by the editor in the foreword: "If there is a single generalization or principle that flows from the field testing of development communication theory over the past five years it is that information communicated to the rural poor can, indeed, make a difference in improving the quality of their lives, but how much of a difference will depend on a *combination* of both technical and political factors that are vital to any significant change." The common context of each author's approach is one of advocacy for the needs of LDC rural poor and greater equity in rural development.

The first report critically presents common assumptions about the role of information in rural development and describes the information environment of the rural poor: "We can conclude that there are probably not many channels functioning to bring development information to rural people." Political and technical constraints on development communication approaches are outlined, followed by a discussion of potential and real impacts of information in rural poor areas. Noting that "the small subsistence farmers may not lack for information but often cannot use it . . . because of structural constraints like land size or lack of credit," the author suggests that "the principle for planning information strategies that pay off for the poor seems to be in a careful estimate of the ratio for potential change in the target area. . . ."

The second report examines the distribution and stratification of mass media in rural areas of LDCs, focusing on the composition of the audiences of the different mass media, and on how the stratification of rural audiences affects issues of access, exposure, content, understanding, and utilization. Data from two studies on mass media exposure, in India and Nigeria, are presented, reflecting the author's theoretical contention that there is inequality in the distribution of mass media, both between urban and rural areas, and within rural areas themselves. The author concludes that "even where mass media are widely available, serious reservations remain concerning the contribution of the information to a more equitable rural development . . . , particularly . . . with commercially oriented mass media in rural areas."

The third chapter, "Who Benefits from Education and Information?", is based on field research and evaluation experience in the Ivory Coast's nonformal education system, which uses television to reach illiterate adults and youths. In addition, results of field research in information, education, and communication (IEC) experiments in six other developing countries are presented to demonstrate who really benefits from these experiments: "The common observation . . . is that the intended target group is not reached, but only a segment thereof."

The final report reviews the approaches taken by economists to evaluate the impact of communication technologies and activities on agricultural development. The report concludes that of the two main economic approaches to evaluation—the individual-oriented theories of the neoclassical economists and related perspectives from other disciplines, and the more historical, structural view of Marxist and related economists—the latter "have been considerably underemphasized and underfunded."

The editor of these reports has suggested that their potential usefulness lies in "either a more careful application of both technical and political analysis in the planning and execution of IEC projects; or, at least, a clearer vision of what the constraints are that prevent this application." The authors would seem to have made a conscious effort to limit their audience, as the reports require some familiarity with research techniques and language, and they frequently fail to connect theoretical content with real opportunities for application. While such communication problems via the print medium have some of the same results that the authors criticize in development efforts—for example, limiting message impact and audience—their contribution lies in placing development communication in its broader socioeconomic context. This could serve to promote more critical examination of IEC projects. The difference, however, that the information offered here could make to the lives of the rural poor of the Third World will depend on its distribution to and acceptance by planners and project implementers, whose perspective may be restricted by their concern with the exigencies of day-to-day application. ■

Available from the Institute for Communication Research, Stanford University, Stanford, California 94305, U.S.A.

Reviewed by Carol Carp, a communications consultant currently working in Mali.

2 ***The Use of Radio in Social Development,*** by Terry D. Peigh, Martin J. Maloney, Robert C. Higgins, and Donald J. Bogue (Chicago, Illinois: Community and Family Study Center, University of Chicago, 1979), 172 pp.

Radio continues to grow in importance as a communication and social force in developing countries, particularly in its application to social development. The use of radio to inform and educate is not new; however, there is a growing trend toward more *effective* use of the medium, with better planning and program production, pretesting of messages, integration with other mass and interpersonal channels of communication, and more thorough follow-through evaluation.

The Use of Radio in Social Development provides a basic guide to the *effective* use of radio. For those new to the medium, the book will serve as an introduction to the basics of radio communication. The more experienced reader will find the book useful in providing a comprehensive checklist of the planning and production processes.

The authors lay to rest the argument of education versus entertainment in social development broadcasting. They point out that although imparting essential information and motivating behavioral change are the basic objectives of social development messages, entertainment is necessary to attract, hold, and persuade large audiences. This idea of education *and* entertainment, or perhaps education *through* entertainment, is the basic theme of the book.

The chapters on planning effective radio communication are solid and comprehensive. The topics include identifying target audiences, assessing media habits, analyzing effective programming, scriptwriting, production considerations, and other basics. Various program formats are discussed, including news, group discussion, interviews and testimonials, entertainment, and the magazine format.

The discussion of audience identification would have been more useful if the authors had cited more variables for segmenting target audiences. The authors deny that their book represents a "marketing or advertising approach," but a review of social marketing techniques would be helpful in improving the section on audience analysis.

Many social communicators seem to run aground in mass media by moving from overall program objectives directly to message development. A critical intervening step covered in this book is a strategic understanding of *what* must be communicated (based on the program objectives) before attention is given to message execution.

The section on radio spot announcements is well done and would make good reading for social communicators and Madison Avenue copywriters alike. The advantages of spot announcements are outlined, along with the dos and don'ts of good preparation, copywriting, and production. A variety of examples are provided, and music, dialogue, celebrities, and humor ("beware of it") are discussed.

To illustrate the various formats and production techniques, small case histories are drawn from various countries (Kenya, Jamaica, Iran, St. Kitts-Nevis, Thailand, Colombia, Mauritius, the Philippines, India) using a variety of social issues, audiences, and radio formats.

The authors conclude with a useful chapter on pretesting message effectiveness among samples of the target audiences to be reached. Pretesting does not guarantee success, but it can reduce the chances of miscommunication, or even audience alienation, before time and expense have been expended on full production and on-air use. Audience comprehension is stressed as the single most important objective and the key to pretest assessments.

Recognizing the increasing variety of radio programming available to Third World listeners, it would have been worthwhile for the authors to address the need to assess the ability of a program or message to gain attention in a cluttered broadcast environment. This problem aside, the section of the book on pretesting is a good treatment of the need for pre-production assessment, and of affordable methods for collecting and assessing respondent data.

Another book in this Media Monograph Series, *Communication Pretesting*, provides a fuller exposition of pretesting (see *DCR* No. 26). Also, the Office of Cancer Communications National Cancer Institute, Bethesda, Maryland, U.S.A. has useful materials on pretesting broadcast messages. Its Health Message Testing Service tests radio and television spot announcements among a variety of audiences in the United States. ■

Available for U.S. $3.75 from the Community and Family Study Center, University of Chicago, 1411 E. 60th Street, Chicago, Illinois, 60637, U.S.A.

Reviewed by William D. Novelli, President, Porter, Novelli and Associates, Inc., a Washington-based social marketing firm.

3 *Radio Mathematics in Nicaragua.*

16mm film, Academy for Educational Development, 20 minutes, color.

In 1973 the Nicaraguan government, Stanford University's Institute for Mathematical Studies in the Social Sciences, and the U.S. Agency for International Development undertook a joint project to use radio to teach the core mathematics curriculum to Nicaragua's rural primary school students. This film provides a comprehensive overview of that project. It covers:

- *the problem to be addressed:* To provide a consistently high level of teaching in a particularly difficult subject matter, one in which few primary teachers have sufficient training;
- *the process that was developed to adapt the curriculum:* While following the government's curriculum goals, the lessons stress mathematical skills applicable to rural life, and use the theory of distributive learning;
- *the design of the broadcasts:* Lessons are a well-paced mix of questions and responses, work and play, music and voice characters;
- *the atmosphere of the classroom:* Children respond to the radio speakers, work with bottle-tops as counters, sing along with radio songs, and continue to work with their teacher following the broadcast.

The film narration, which gives us the factual details of the project, alternates with the sounds of the classroom so that the viewer senses the excitement of this learning process.

Educators looking for innovative educational methods will find positive visual and evaluative answers to the three major questions posed by the project: Can radio assume the principal burden of teaching mathematics? Can children learn better from radio teaching than by traditional methods? Can radio teaching be cost-effective? ■

Available on loan from the Clearinghouse on Development Communication.

Reviewed by Judy Brace.

4 *Media Women.*

16mm film, UNESCO, 1977, 28 minutes 40 seconds, color.

Media Women, a UNESCO report filmed in Tunisia, Sweden, and Italy, describes the evolving role of women in media, focusing primarily on television and film. A growing number of women are becoming involved in media production and management; *Media Women* discusses their attempts to become accepted members of their profession.

The film emphasizes that, because they identify closely with the rights and roles of women throughout the world, women are led to new insights and new slants on familiar experiences, and they bring new perspectives and innovative ideas to filmmaking and television production.

Starting in Tunisia at the Conference of the Arab States Broadcasting Union, the film looks at how women in the Arab world, who have traditionally led secluded lives, are now taking a more active role in society. The question is, Will radio and television help them become a happy part of the community and at the same time help them maintain their cultural identity? The film provides no answer, merely an awareness that the question must be considered.

The camera then moves to Sweden, where women have been involved in media production for a longer period of time. In one example, a woman producer uses television to dicusss male and female role stereotypes. In other segments, two women filmmakers discuss women's role in film.

The film's final segment reports on a meeting of Film Women International, where women filmmakers met to discuss mutual problems, view each other's films, and develop fundraising strategies for the production and preservation of their work.

Media Women emphasizes women in media but is not judgmental, nor does it resolve the conflicts faced by women producers. It merely looks at women's struggles to become effective contributors in a traditionally male profession. ■

Available in English, Arabic, and French from UNESCO, Room 2401, United Nations, New York, New York 10017, U.S.A.

Reviewed by Kathy Alison, a communications and media production specialist for the U.S. Department of Agriculture.

The Village Mailman: The Potential of Postcards

by Benedict Tisa

Late last winter while I was working at home between assignments, the mailman, Al, came by on his usual run and handed me a packet of letters that included several postcards. Al offered the comment, "Your friend is sure lucky to be spending some time in the Caribbean." Later, when I sat down with the postcard from my friend, turning over the color photograph of palm trees and beach to read the handwritten message, it struck me all of a sudden that Al had been reading my mail. My first thought was that Al was prying, and I was irritated. The next day I questioned him about reading postcards. Without embarrassment he said sure, he glances at postcards; he feels they are public. After all, if a card is not meant to be public, it should be put in an envelope. Besides, the illustrations are a big come-on. The more interesting or attractive the illustration, the more his curiosity is aroused.

This incident set me thinking about the fact that, because they draw your attention, postcards might be used deliberately for educational purposes. When I became involved in an agricultural functional literacy extension project in Bangladesh, I decided to see if postcards could be put to use as a motivational tool. In designing our postcard experiment, we took the following facts into consideration.

- Mail service existed in the area in which we were working, and though it was not regular (mail went from hand to hand until it reached the correct party), it was reliable.
- Postcards could be made by hand at nominal expense, and postage was not prohibitive.
- Receipt of mail in these villages was not a common occurrence. Therefore, it seemed likely that the delivery of a postcard — the fact that it would have to pass through several hands — could provoke some interest, curiosity, and discussion among the villagers.
- Extension workers were living in the villages and would be able, available, and certainly willing to explain the illustration and information on the postcards. The extension worker would quite naturally be drawn into a "mini-lesson" in this way.
- We believed that the cards would be motivational, and they might also be a form of recognition or reward for the recipient. Almost everyone likes to receive postcards.

We decided to test the idea in three villages where a clean water campaign was in progress. Among the methods of water purification being taught was one which used simple, locally available materials for constructing a filter. Villagers were also being urged to use tube well water when it was available.

We designed two postcards, one illustrating the water filter, and the other illustrating women drawing water from a tube well. On the message side of each card we printed a few words that were being taught at the time in the functional literacy classes. We mailed the cards to the extension workers, having asked them to monitor the reactions, comments, and questions of the villagers — not just as they were addressed to the extension workers, but as the villagers talked among themselves. We wanted the extension workers to get an idea of how much gossip was generated and whether it was favorable.

The distance from the main post office to the test villages varied from 15 to 50 kilometers. We had figured that it would take a few days for the postcards to reach the extension workers and were surprised that it actually took a week, in one instance, for the card to reach its destination. We presumed (naturally) that it had stayed longer than normal in those hands through which it had to pass.

The reaction from the villagers was positive. On the whole, they expressed interest and curiosity. The extension workers were asked by several people to explain the illustration on the card and what the printed words meant. We were very encouraged by this trial run and were convinced that post-

(Continued on following page)

cards were potentially an effective motivational tool. More than that, they opened up the learning or awareness-creating process in a very natural way, causing the villager to approach the extension worker, rather than the other way around.

It remained for us to refine our strategies and determine how we might integrate postcards further into our program. At the time, the agriculture functional literacy project was not in the implementation stage, so we could not make full use of postcards as motivational tools. Still, in the planning and testing phases, we were able to guess some of their potential. One idea involved sending postcards with words or phrases on them to the functional literacy students. The learner would bring these to the regular lesson, and they could then be used as a visual aid and learning tool in the classroom.

Postcards could also be used to introduce new or unfamiliar vegetables, with an illustration of the vegetable on one side and instructions for its cultivation on the reverse. A collection of such cards could become a kind of field notebook.

We agreed that it would be wasteful to use postcards merely as an open "broadcast" system without any follow-up, or without tying them into other elements or functions of the project. We also agreed that we would have to be careful not to overuse postcards and cause them to lose their effectiveness, novelty, and fun.

There is no doubt that postcards have potential. In the United States we have become quite sophisticated — even blasé — in our use of the mail for advertising, business, and education. Sometimes, however, the simple and common can be used to good effect in the appropriate situation. ■

If you have used postcards or other forms of correspondence for educational or motivational purposes in a development program, Ben would like to hear from you. Write to him at 616 Lees Avenue, Collingswood, New Jersey 08108, U.S.A.

Benedict Tisa is a nonformal educational communications consultant.

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A center for materials and information on important applications of communication technology to development problems, the Clearinghouse is operated by the Academy for Educational Development, a nonprofit planning organization, and supported by the Development Support Bureau of the U.S. Agency for International Development as part of its program in educational technology and development communication.

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Readers are invited to submit typed manuscripts of no more than 1000 words and to send in photographs.

Selected Bibliography on Evaluation

Bachrach, Peter. "Evaluating Development Programmes: A Synthesis of Recent Experience." Occasional Paper No. 3 in a series on Experiences in Rural Development. 1977. Results of a systematic analysis of some 100 evaluations read and some 40 summarized in an attempt to determine how much is known about the costs of evaluation and what kinds of results can be expected from evaluation. Available from OECD Development Centre, 94, rue Chardon Lagache, 75016 Paris, France.

Bhola, H.S. *Evaluating Functional Literacy*. 1979. One of a series of training monographs on literacy in development, this volume presents an integrated approach to making evaluation *operational* within functional literacy programs and projects. It deals with all aspects of evaluation, from the determination of evaluation policies to the design of needed tools and instruments, from data collection to the use of data to make informed decisions. Available in Spanish, French, Arabic, and English from the International Institute for Adult Literacy Methods, P.O. Box 1555, Tehran, Iran.

Clark, Noreen, and McCaffery, James. *Demystifying Evaluation*. 1979. A manual for conducting a training workshop on evaluation, the manual itself derived from a workshop conducted for staff members of nonformal education programs in Kenya, Ghana, and Ethiopia in 1977. Available from World Education, 1414 Sixth Avenue, New York, New York 10019, U.S.A.

Dulansey, Maryanne L., editor. *Approaches to Appropriate Evaluation: A Report* on a series of workshops on evaluation sponsored by the Committee on Development Assistance of the American Council of Voluntary Agencies for Foreign Service. Available from the Technical Assistance Information Clearing House, 200 Park Avenue South, New York, New York 10003, U.S.A.

Educational Testing Service. *A Manual for the Analysis of Costs and Outcomes in Nonformal Education*. 1979. Presents what is known about cost-effectiveness and cost-benefit analysis for people who are responsible for planning, administering, and evaluating nonformal education projects in less developed countries. Available from the International Office, Educational Testing Service, Princeton, New Jersey 08541, U.S.A.

Jamison, Dean T.; Klees, Steven J.; and Wells, Stuart J. *The Costs of Educational Media: Guidelines for Planning and Evaluation*. 1978. Presents a methodology for the cost evaluation of ongoing educational projects and illustrates its application by examining the cost structure of instructional radio and television projects, particularly those in developing countries. Includes nine cost case studies. Available from SAGE Publications, 275 South Beverly Drive, Beverly Hills, California 90212, U.S.A.

Morris, Lynn Lyons, editor. *Program Evaluation Kit*. This set of books, intended to assist people who are conducting evaluations of educational programs, includes the following titles:
The Evaluator's Handbook
How to Deal with Goals and Objectives
How to Design a Program Evaluation
How to Measure a Program Implementation
How to Measure Attitudes
How to Measure Achievement
How to Calculate Statistics
How to Present an Evaluation Report
Complete kit or individual volumes are available from SAGE Publications.

Perraton, Hilary, editor. *Alternative Routes to Formal Education: Distance Teaching for School Equivalency*. Baltimore and London: Johns Hopkins University Press, forthcoming. Results of research sponsored by the World Bank on the cost effectiveness of distance teaching for school equivalency. Includes case studies from Brazil, Malawi, Mauritius, Korea, Kenya, and Israel. For information on availability contact Shigenari Futagami, The World Bank, 1818 H Street, N.W., Washington, D.C. 20433, U.S.A.

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tests should probably be understood in the same perspective as operational projects in their early years.

Thus, there is probably no consistently adequate mechanism for influencing major decisions about a project with research done on that project. Planners are restricted to gathering data that can frame the audience and the environment in which the project must function. Beyond that, they must apply available theory and make inferences on the basis of data gathered on related projects. As projects gain momentum, major changes in trajectory are difficult to achieve.

Nonetheless, the social researcher can take on additional important roles. There are minor changes in course likely to be achieved through an efficient management information or monitoring system. The social scientist can help identify the nature of information that can be used by the operating system, the appropriate instruments for gathering the information, the data-gathering logistics, and the process through which the raw data will be translated into specific recommendations.

However, it is imperative that any regular gathering of information be limited to topics that have a specifiable value each time they are reported. Operating systems will ignore information if there is no time or mechanism to make use of it. Particularly if one is utilizing frequent monitoring cycles, feedback may of necessity be limited to information about details of implementation: how many teleclasses broadcast, how many television sets broken, how many workbooks delivered.

Less mechanical questions might be handled in a different way. The evaluation team might take particular problems that have surfaced and focus on them one at a time: Are teachers complaining that the mathematics teleclasses are going too quickly for rural seventh graders? How well do the classroom teachers of Spanish handle the activities recommended in their teachers' guides to reinforce the telelesson?

In each case, the users of the evaluation results are specified, and the problem is carefully defined with them. Then an appropriate research design is developed, and data collected and reported. In each situation some reasonable solution to a problem is reached and the evaluation group takes on a new problem, returning to the old one only when it seems necessary. In the end, no evaluation activity should be undertaken the results of which are likely to produce recommendations that cannot or will not be utilized. ■

Robert Hornik is associate professor at the Annenberg School of Communications, University of Pennsylvania, Philadelphia, Pennsylvania 19104, USA.

How Can You Contribute to DCR?

- If you are in Washington, come to the Clearinghouse, use the Clearinghouse collection, and visit with us. This helps us to stay in touch with what is happening in the field.
- Write and tell us about your projects—your experiences are valuable to your counterparts in other countries.
- Send us regular copies of your publications, papers, and reports. These are valuable to us as we work to strengthen the development communication network worldwide, and they will be used by visitors who come to use the Clearinghouse collection for research in planning their own projects.
- Send us articles for publication in *DCR*. We are planning future issues on literacy and communication for the urban poor.

Conference on World Communications

"World Communications: Decisions for the Eighties" is the title of an international invitational conference sponsored by the University of Pennsylvania's Annenberg School of Communications, May 12-14, 1980, in Philadelphia. Policy makers, scholars, and managers will come together to explore the foundations of judgment and action in the broadest technical, social, cultural, and political contexts. Interdisciplinary task groups will be formed to develop policy recommendations. Conference fee is $300. A limited number of grants is available. For information contact the World Communications Conference, Annenberg School of Communications, University of Pennsylvania, Philadelphia, Pennsylvania 19104, U.S.A.

M.A. in Communication and Development

The Department of Communication at Stanford University offers a Master of Arts degree in communication and development. The program is intended to provide exposure to communication theory, social research methods, statistical analysis, development communication project design, programming, and evaluation research.

The program usually requires three quarter-terms (nine months) of full-time course work, followed by a period of field research in a developing country, and by about two terms of data analysis and thesis project writing.

The Stanford program is expected to be of greatest value to candidates for from Latin America, Africa, and Asia who are presently engaged in communication and development programs, or who are affiliated with universities or other organizations conducting communication research and/or teaching. Applicants must be university graduates. Competence in English is required, as is completion of the Graduate Record Examination. Applications must be submitted by January 1 for the academic year beginning the following September.

Further information about the program may be obtained from Professor Bella Mody, Institute for Communication Research, Stanford University, Stanford California 94305, U.S.A.

Summer Course on Communication Planning

The Department of Communication Arts at Cornell University will conduct a three-week course on "Communication Planning and Strategy in Rural Development," July 20-August 8, 1980. The course, for policy level officials and decision makers in agriculture, health, nutrition, education, and other sectors related to development, is designed to assist participants in systematically incorporating communication components into their programs.

The course will deal particularly with methods for mobilizing resources and developing strategies for communicating with persons targeted as beneficiaries of rural development programs. Attention will be given to linking communication with program policy and objectives; orchestrating audiences, channels, and content; implementing programs; and measuring results, with emphasis on the support and maintenance of decentralized communication operations and the development of community participation.

Course costs will be U.S. $650 for tuition, fees, and materials, and approximately U.S. $400 for room and board. For further information contact Dr. Royal D. Colle, Department of Communication Arts, Cornell University, 640 Stewart Avenue, Ithaca, New York 14850, U.S.A.

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